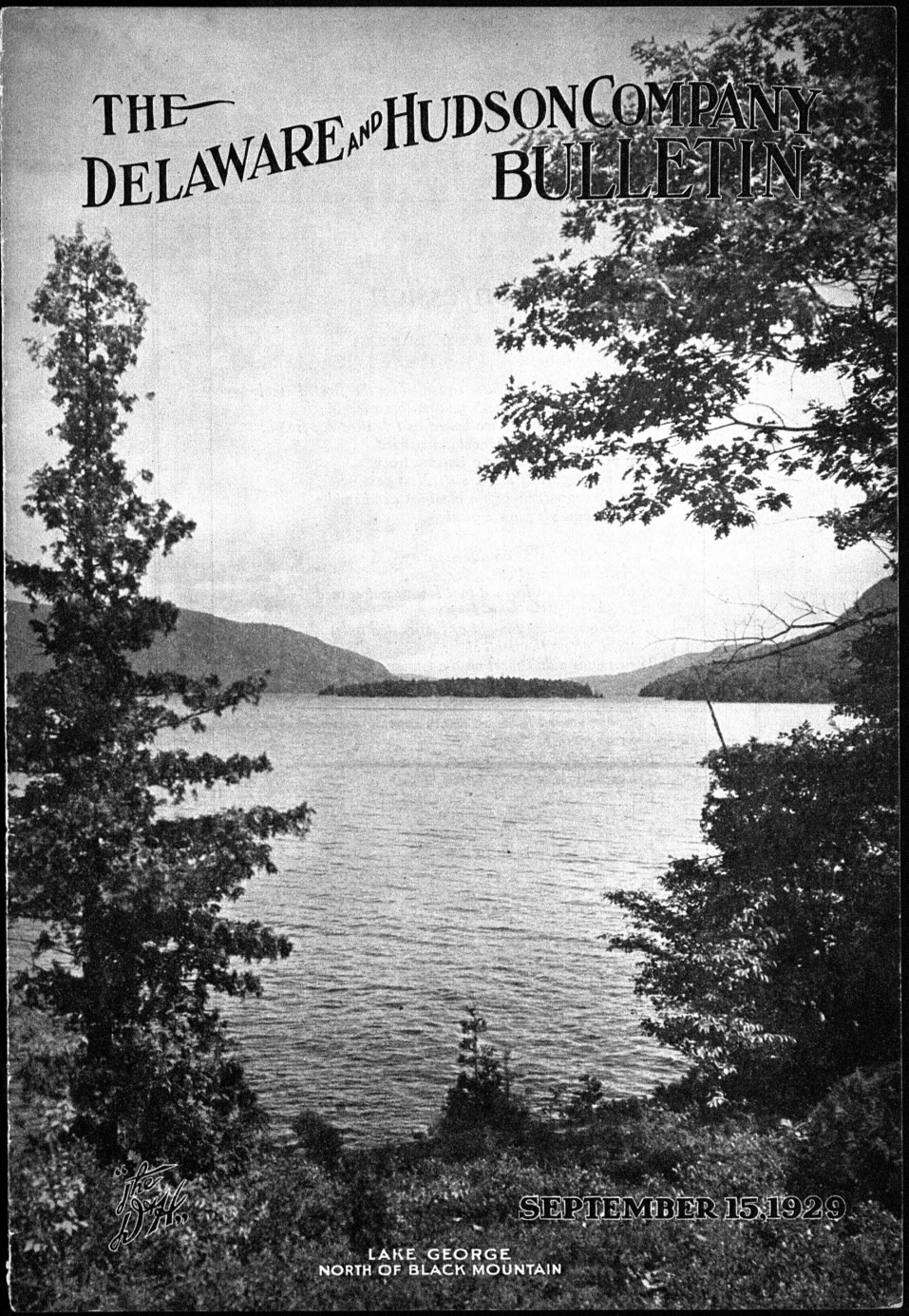
THE DELAWARE AND HUDSON COMPANY BULLETIN



"The North"

SEPTEMBER 15 1929

LAKE GEORGE
NORTH OF BLACK MOUNTAIN

Confession

By ROBERT D. LUKENS

MY wheels have squealed on the frosted steel
Of an ice-bound northern world;
My sides have baked as I hauled my freight
Where the desert sandstorm swirled.
I've been frozen fast to a passing track
In the depths of the Crow's Nest pass,
And I've raced through a cloak of acrid smoke
From burning prairie grass.

I've traveled far in an aimless way,
As thousands of cars have done,
And at last I've learned that I have not earned
My keep in the long, long run.
I've been thinking tonight of the wasted miles
Piled up on the debit side;
When ends didn't meet on the tonnage sheet
Because of an empty ride.

I've been routed home on empty slips
From every foreign road;
From Bangor, Maine, to the Texas plain
I've been billed with half a load.
I've come out of the West in a special train
With silk, under heavy guard,
Then again I've sat 'till my wheels grew flat
In a congested railway yard.

I've been dreaming tonight, as I hurried along,
Of those carefree days of yore—
Of the tonnage small on the outbound haul,
With an empty trip home in store.
And yet, though pleasant my dreams have been,
I find they are fading fast;
And I breathe no sigh for the days gone by,
For I'm paying my way, at last.

The DELAWARE AND HUDSON COMPANY BULLETIN

Vol. 9 Albany, N. Y., September 15, 1929 No. 18

Railroader By Accident

Through Another's Mishap Veteran Received His Start in Transportation Work

ACCIDENTS are now considered as an indication of lax management and poor spirit among employes. It was in the day when they occurred frequently, that an accident resulted in securing a job for MYRON S. MORSE with our Company, which ended in the completion of over fifty years of service, before failing health forced him to retire.

It was in the days when conductors hired their own train crews that he happened to be at the place of an accident. A trainman had lost three fingers, and the conductor was looking for someone to take his place. Turning to young MYRON, he said, "How would you like to work on the railroad?" Not at all dismayed by the accident he had just witnessed, for to the young man's mind railroading represented about the best work that a man could have, he immediately accepted and began work as a trainman with that conductor.

MYRON S. MORSE

To turn back for a moment, however, MYRON S. MORSE was born at Sanford, N. Y., now included in the thousand acre estate of Willis S. Kilmer of Binghamton. This game preserve is used to breed deer, Belgian hares, pheasants, and other game, also trout. The trout are in a pond just eight feet below the Susquehanna-Delaware River watershed. The water now runs into the Delaware River; were the pond raised eight feet it would run into the Susquehanna.

Before he came with our company MR. MORSE worked on farms and in lumbering camps in the vicinity. During the years immediately preceding his first employment with us, he drove a team and worked in the saw mills near his home. His first four years of railroad experience were spent under Yardmaster H. S. Morse. At that time the Susquehanna Division track consisted of both broad and "narrow" gauge, the latter corresponding to our present standard gauge.

As railroad work lost its appeal after the first four years, he left the service of the company to return to farming work. He was more discontented than ever then, however, and so returned to the railroad, this time as a fireman. For seven years he worked on the Binghamton way freight, seven years more in the yard, and many years on the extra list. He has, at some time or other during his railroad experience had runs from Oneonta to Binghamton, Mechanicville, Albany, Carbondale, and Whitehall, in addition to yard work. The year following his return to railroad work they removed and re-

placed the double gauge line with track of standard gauge.

At that time Ben Lauren was yard master at Oneonta and to him MR. MORSE owes the fact that he is alive today. While making a coupling in the days of the link and pin, he stepped between the rails to drop the pin through the minute the cars came together. By reason of some "sixth sense" Mr. Lauren saw that the couplers instead of matching up would pass by each other. Anything which happened to be between them when the cars came together would be sheared in two as if with a knife. Like lightning Lauren pulled MR. MORSE away and so he was saved from being crushed between the cars.

Back in the days of the hand brakes on cars and locomotives, he had a very thrilling experience between Starrucca and Thompson. They were coming down the hill at a pretty fast rate of speed. The brake handle for the brake with which the locomotive was equipped, was slipped into notches to hold it in position and MR. MORSE had it set so as to check the speed of the train. It slipped out of the catch, however, striking him on the arm and knocking him from the cab and down the bank. Aside from a bad shaking-up he was unscratched.

Once he left Oneonta for Mechanicville with a train load of rush freight. He was given a lap order at Kelley's on account of another train coming up the branch. However, for some reason or other the operator at Kelley's let him get by without stopping, and, perfectly unaware of the danger ahead, they went down the branch with their load of rush freight. The Yardmaster at Delanson realized what was going to happen so he sent Engineman Chase, a pusher engineman, after them to stop them before they collided, head on. Chase was known to be a speed demon and he took after them with throttle open wide. Despite a speedy run the two trains met on the crossing just below Kelley's and both locomotives were completely demolished. The fireman picked out a snow bank and dove into it just before the crash. MR. MORSE rode his engine right into the wreck, however, and was badly bruised.

While going south from Oneonta one day they were rolling along with a 70-car train when he saw a farmer ahead on the track waving his hat violently to signal him that a section of track was washed out after a bad rain. The train was stopped just an engine length from the washout. The company presented the farmer with a pass over its lines for the remainder of his life and a sum of money, sufficient for him to buy a comfortable home. At that time, of course, there were no block signals; had there been, they would have stopped the train.

For some years MR. MORSE fired passenger trains 14 and 15 from Oneonta to Binghamton and return. On this run he fired for Engineman Jones. One day while coming into Oneonta at a high rate of speed they ran into an open switch just below the station and struck a caboose. There were parts of that caboose all over the adjacent tracks!

On a trip on train number 2, from Binghamton to Albany (just the reverse of the numbering today) with Engineman Jones, they were held up by a wreck at Bainbridge. Ordinarily they turned around immediately at Albany for the return trip on Number 5. If they were late the sleeper crew would be called for their run and they would have to bring the sleeper out of Albany. This did not appeal to either of them so they determined to make up their lost time on the Meadowdale flats. Jones was also a man who "liked his speed" and with engine 185, a fast runner, wide open he rolled over the flats at a terrific rate of speed. Just as they reached the crossing on the curve at Meadowdale, they struck a low joint. The engine raised up on one side clear of the rails and both of them thought they were going to tip over. Jones sat there, with the throttle still wide open, until the weight of the train behind pulled the engine back on the rails. Had he reached for the air or closed the throttle, it would doubtless have tipped over.

Some time later Mr. Jones told MR. MORSE that after the following trip he was going to spend a week with some relatives on another line. MR. MORSE decided to lay off at the end of that trip, however, despite the urgent appeal of Mr. Jones that he make one last trip with him. Unfortunately Mr. Jones was struck on the head by the mail rack at Esperance and he was so badly injured that he never worked again.

Although he is not able to be up on his feet or walking around much of the time, MR. MORSE still has a hearty appetite and feels very well. He enjoys sitting on his front porch during the summer days, looking with pride on his spacious flower garden, one of the most attractive, incidently, in Oneonta. On account of his inability to walk much he seldom leaves Oneonta and has only been out of town three times since he was retired.

Doctor—Now, young man, what have you to say for yourself?

His son (in for a licking)—How about a little local anaesthetic?—*Humorist.*

Hitting the Low Spots

Mechanical Track Inspector Is An Important Factor in Determining Awards For Prize Sections in Connection With Annual Competition

SINCE 1927, the Delaware & Hudson has been operating over its lines a special track-recording device, new in this country until taken up by our road, which is designed not only to be of assistance to the maintenance of way department in determining periodically the condition of the tracks, but also to enable it to study and record all of the irregular movements of cars which affect the comfort of passengers and produce unusual wear and tear on rolling stock. Specifically, this new device records the relative accelerating and braking force of trains, the side rolling of cars due to soft roadbed or centerbound track, the lateral motion of cars due to bad alignment and variations in gage, the relation between speed and the superelevation on curves, and the relative severity of vertical shocks caused by defective rail joints, rough-riding turnouts, crossings, etc.

The new device, which is known as the Hallade track recorder, is a portable self-contained unit, housed in a wooden box about 16 in. long by 12 in. wide and 20 in. high, and weighs about 70 lbs. As used on the Delaware & Hudson, the instrument is set on a rugged stool about 12 in. high, which is placed on the floor of one of the company's business cars, directly over the center of the rear trucks. This car is usually attached to one of the regular passenger trains, but in certain instances it has been made up in a special test train. So mounted, the recording machine traveled a total of from 10,000 to 11,000 miles on the D. & H. up to the first of this year, and in addition, has covered about the same mileage in test service on the lines of the New York Central, the Central of New Jersey, the Kansas City Southern, the Missouri-Kansas-Texas, and the St. Louis Southwestern.

The instrument produces automatically a four-line continuous carbon record on a band of moving paper, 2½ in. wide, which is fed from a roll supply, and which travels at the rate of six inches a minute, regardless of the speed of the train. These lines of the record are produced by four steel tracer pens, designated as Nos. 1, 2, 3, and 4, respectively, which are actuated by suitable mechanisms to produce the records desired. Pen No. 1 is known as the location record pen, by means of which it is possible to record all mile posts and the points of curves, which are necessary to compute the speed of the train and to analyze the other lines of the record intelligently. This pen produces a single straight line which is jogged only at the will of the operator, who presses a pneumatic bulb as the instrument passes the specific points which he wishes to record.

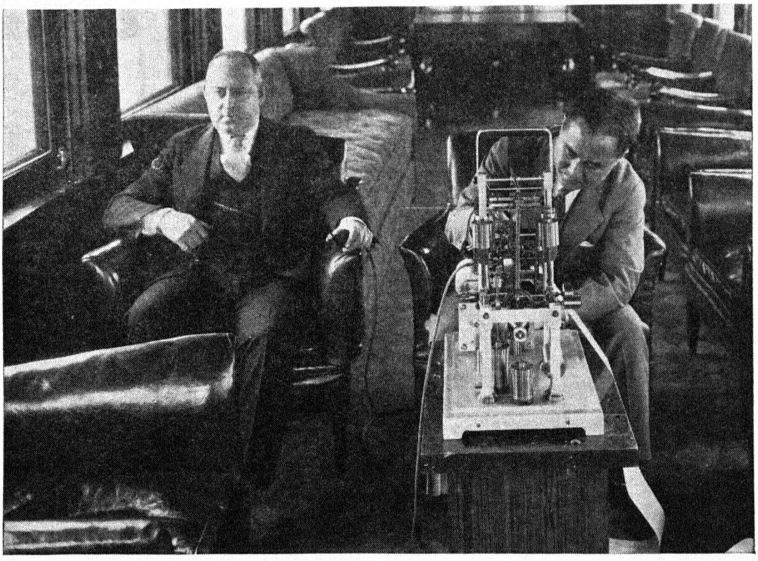
Pen No. 2, which records changes in the speed of the train due to accelerating and braking, and also rough swinging or rolling movement of the car, is controlled by the combined action of two separate parts of the recording machine. One of these parts is a pendulum suspended from an axis transverse to the track, which swings forward and backward as the engine of the train is braking or accelerating, and which remains steady when the draw-bar pull is steady and the train speed is constant. The other of the two parts consists of two symmetrical weights mounted at the opposite extremities of a swinging rod, which, in turn, is mounted on a pivoted axis parallel with the track. In this arrangement the weights are not affected by longitudinal or traverse movements of the instrument, rolls from side to side. The frequency and the amount of this rolling action are recorded by pen No. 2, which inscribes a line with projections to each side of the normal central mark, showing the magnitude and period of the rolling motion. In reading the record of No. 2 pen, there is no possibility of confusion between the effects of rolling, braking and acceleration. Rolling is indicated by a jagged line; braking is indicated clearly by a deviation of the line downward; while acceleration is indicated by a deviation of the line upward. In the latter case, however, owing to the gradual effect of acceleration, the upward movement of the line, in most instances is so slight that it is practically unnoticeable.

Pen No. 3, which records transverse oscillations or the lateral movement of the car, as transmitted to the instrument, is actuated by a large pendulum supported on an axis parallel with the track, which responds to lateral shocks or movements. The pendulum connected to pen No. 3, which is free to swing on ball bearings, is

provided with a damper in the form of an air dash-pot.

While the record of this pen discloses the faulty alignment and gage of tangent track, whether caused by wear or inaccuracy in relaying rail, it is the more effective because it indicates clearly the relative correctness of the alignment and the superelevation on curves. By reason of the construction of the instrument, if the superelevation on a curve is correct for the speed at which it is used, the floor of the car as it passes around the curve, and consequently the instrument, is tilted until it lies in a plane at right angles to the resultant of the pendulum weight and the centrifugal force which throws the pendulum outward. Since the pendulum is acted upon by the same forces as the car, and therefore naturally assumes a line corresponding to the resultant referred to, the relative positions of the pendulum and the instrument on a curve of proper superelevation for the speed at which the train is moving, are the same as when the machine is standing vertically at rest. Consequently, when traveling around a curve with the proper superelevation, the pen actuated by the pendulum remains on the center line of its course as though the car was operating on tangent track.

When the superelevation of a curve is too high, however, the pendulum, owing to centrifugal force, remains at the same angle as though the superelevation was correct, but the floor of the car, and consequently the base of the instrument, is at an angle greater than the correct angle, and therefore, the pen deviates to one side of its correct course. Similarly, when the superelevation of a curve is too small, the base of the instrument is at too small an angle, and therefore, the pen deviates to the other side of its correct course. When the curve is to the left, a deviation above the center line course of the pen indicates that the superelevation is insufficient. When the curve is to the right, the opposite is the case. The amount by which the superelevation is too great or too small is obtained by measuring the distance on the chart between the mean of the deviation and the center line of the record itself, and multiplying the result by 10. Thus, if the mean of the deviation measures $\frac{1}{8}$ in., the error in the amount of superelevation



Hallade Track Recorder in Operation

provided is equal to ⅛ times 10, or 1¼ in. approximately.

Bad alignment on a curve is shown independently of the condition of the superelevation by serrations in the line record of pen No. 3, and, if desired, it is possible to calculate the lateral force producing any particular serration in the line. As a rule, however, this calculation is not made, it being sufficient to know the relative condition of the alignment, whether good or bad.

Pen No. 4 of the instrument is sensitive only to vertical movements, and therefore indicates only such track conditions as low joints, rough-riding crossings, etc. This pen, like pen No. 3, is connected to only one pendulum, which is supported on a horizontal arm projecting at right angles to an axis transverse to the track. This pendulum is held in equilibrium in a horizontal position by a supporting spring, and its vertical motion, due to impacts received from the track, is dampened by means of an air dash-pot. When traveling over what is ordinarily considered track in good surface, the record of pen No. 4 shows a line finely serrated, with abrupt jogs only at rough spots. On the other hand, rough track, with low or battered joints, is plainly indicated by a line of successive prominent jogs or serrations.

In addition to the condition of the track, the records obtained from the recorder are influenced, more or less, by three other factors. These are the riding quality and sensitiveness of the car carrying the instrument, the speed at which the car is moved over the track, and the adjustment of the instrument itself. Experience has shown that all three of these factors affect the character of the record obtained, but, at the same time, it has been shown repeatedly that, in spite of these influences, the degree of faulty track is clearly discernible. The important thing to be kept in mind in interpreting the records made by the instrument is that the record is better adapted for comparative purposes than for determining to a fine degree the actual magnitude of a defect in the track at any specific point.

Neither the effect of the car nor the adjustment of the instrument seriously affects a true understanding of the record, for, in the first place, if it should happen that a fault is indicated continuously throughout the length of the chart, it is obvious that the car is at fault, because, however bad the condition of the track, it is highly improbable that the same fault will be continuous over every mile under observation. The adjustment of the instrument does not seriously affect the record, and, in any event, lack of adjustment is readily discernible and easily corrected.

Speed very definitely affects the record obtained, but above the minimum speed requirement of 35 miles, which is necessary for the proper operation of the instrument, the fault indications are directly proportional in magnitude to the speed at which the instrument is operated over the track. Knowing the speed over each mile, as computed from the record of mile post indications on the chart, it is therefore possible to determine readily the relative conditions of various sections of track passed over at different speeds, in spite of the fact that this true relative condition is not apparent from the chart when the speeds have varied on different tests.

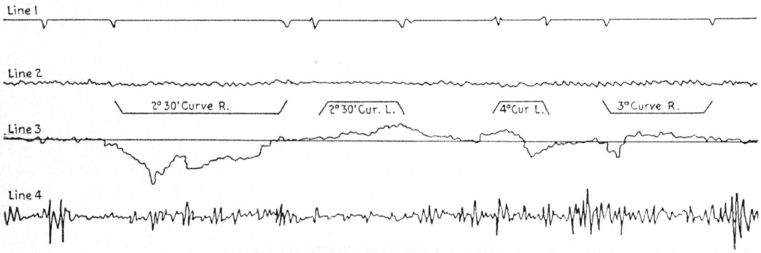


Fig. 1—Section of Record Made On a Poor Piece of Track

Two good examples of the records made by the Hallade recorder are shown in figures No. 1 and No. 2. The first of these shows the record made over a piece of track about 0.8 mile in length, where a moderate amount of rolling action was imparted to the instrument owing to flexibility in the roadbed, or center-bound track, as is indicated by line No. 2, and where the superelevation on certain of the curves was incorrect and

not uniform, as is shown by line No. 3. The heavy serrations in line No. 4 show that the rail joints on this stretch of track were also in bad condition.

Figure No. 2, on the other hand, shows a piece of track of the same length which is in practically perfect condition, it being noted that practically no rolling motion is indicated in line No. 2, and that the superelevation provided on the two curves is almost uniform. Some rough joints are indicated by line No. 4 on the first half of the track shown, but no hammer whatever is apparent at joints in the latter half of the track covered. In the cases of both of the records shown in figures 1 and 2, the speed at which the instrument was operated over the track was between 40 and 45 miles an hour, so that the two records are closely comparable.

In operation of the recorder on the D. & H. it is the practice to run over all main line tracks five or six times a year, two of the runs being made just before and after laying rail. Thus, by means of these records, the maintenance of way department is afforded comparable records of the track at the various seasons of the year, and is in a position to know where track conditions are the poorest and where the greatest maintenance effort must be concentrated. This is particularly desirable during years or seasons when maintenance appropriations are reduced, and when it is necessary, therefore, to confine the major items of maintenance work to those points where it is urgently required, or where it will do the most good.

The records of the recorder are also of value to the men on the divisions, who are thereby afforded a bird's-eye view of the conditions on their respective territories, and likewise, to the roadmasters and foremen, who are enabled to locate definitely the specific points which require special attention. The records have also proved of value in precluding or delaying the general overhauling of sections of track which have been reported in bad condition as the result of visual inspection, but which are shown by the machine record to have bad conditions only at specific points, which can be corrected readily without the greater expense of overhauling the track throughout.

Another use made of the instrument and the records which it produces is at the time of the annual track inspection, when a complete trip is made over the system as a check on the markings of the special judges who rate the various track sections in connection with the awarding of prizes. This practice has proved most effective, and has had the effect of giving the track foremen greater confidence in the system of awarding track prizes.

All of the operation of the recorder has been carried out under the general direction of H. S. CLARKE, engineer maintenance of way of the D. & H., while all of the actual work of obtaining the records has been in charge of SHIZUO HIRAHARA, assistant engineer. The recorder described is the invention of J. Hallade, Paris, France, and was supplied to the D. & H. by J. Edward Green, sales agent of the inventor, at Paris.—*Railway Engineering and Maintenance.*

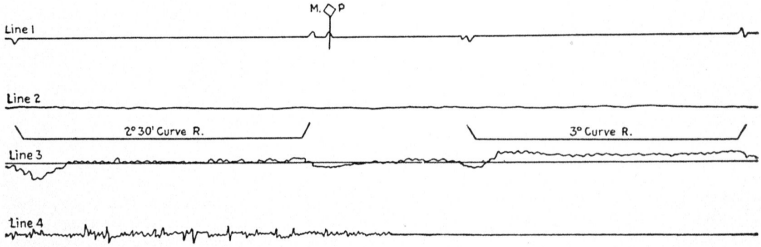


Fig. 2 — Record Made By Recorder on Good Track

Time on the Railroad

What a Second Means in Earnings, Wages, Taxes and Other Expenses

THE truth of the old adage, "Time is the essence of all things," and of its economic value in the operations of the railway industry, have been clearly brought out in a recent address by Dr. J. H. Parmelee, Director, Bureau of Railway Economics, an abstract of which follows:

Although more apparent in some than in others, the value of time is present in every railway operating factor. The most obvious is, of course, train operation, the effectiveness of which depends on the maintenance of time schedules. All of the 1,700,000 railway employes are likewise more or less definitely bound up in the time factor of railway operation, and a majority of them must work on a rigid time basis.

Last year the railways employed 310,817 enginemen and trainmen, 22,142 yard and switching employes, and 197,467 other transportation employes, all of whom must take train schedules and train-time values into account in their work. In addition, there were 23,094 traveling auditors and inspectors, ticket agents, police, and the like, who worked in conjunction with train operation.

The non-transportation group, which has a collateral interest in the time element, last year aggregated 1,126,667 employes—400,198 Maintenance of Way, 461,285 Maintenance of Equipment, 248,294 General and Clerical, and 16,890 Executive.

The maintenance of way employes provide the track over which trains operate and are responsible for the good condition of that track. They must know the train schedules, and plan their work to reduce train delays to a minimum.

The maintenance of equipment employes must accommodate their work to the movement of trains, adjusting it to accord with locomotive and car movement over the lines, and must keep all equipment in the best possible condition to insure maintenance of train schedules.

Those of the general and clerical group are the recording agents for train operation and their records must run with the train, or delay and confusion result. Rate clerks must keep up with the 200,000,000 waybills pouring out of the freight offices each year. Their revision and compilation work must be efficient to insure prompt payment of freight bills. Books must be kept concurrently with traffic, and closed at periodic intervals for auditing and reporting purposes. The numerous reports required by Federal, state, and local authorities must be filed within specified time limits, under penalty of fine.

And with the executives rests the final responsibility to conduct train operation in such a way as to make it speedy, adequate, and safe.

Few realize the magnitude of our railway industry. The railways last year handled more than a billion tons of freight, producing 447 billion ton-miles. Reducing the statistics to the least fractional time element—the second—consider what the railways accomplish. During each second of each hour of each day last year the railways of the United States

Handled 15,125 ton-miles and 1,000 passenger-miles;

Earned $1,936 in operating revenue;

Expended $1,402 in operating expenses, including $894 paid as wages to employes;

Paid $12.34 in taxes to the Federal, state, and local governments.

Of the fifteen efficiency factors frequently utilized as indices of operating effectiveness, the following nine involve the time element:

1. Freight train speed (miles per hour).
2. Freight locomotive-miles per locomotive-day.
3. Passenger locomotive-miles per locomotive-day.
4. Freight car-miles per car-day.
5. Gross ton-miles per train-hour.
6. Net ton-miles per train-hour.
7. Net ton-miles per car-day.
8. Pounds of coal per 1,000 gross ton-miles.
9. Pounds of coal per passenger train car-mile.

Taken separately, each factor exhibits a remarkable forward movement in efficiency since the return of the railways to private control in 1920.

FREIGHT TRAIN SPEED. This is the average mileage made by a freight train for each hour between termini. It rests fundamentally on the time element. From 10.3 miles per hour

(Turn to page 284)

The
Delaware and Hudson Company
BULLETIN

Office of Publication:
DELAWARE AND HUDSON BUILDING,
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PUBLISHED semi-monthly by The Delaware and Hudson Company, for the information of the men who operate the railroad, in the belief that mutual understanding of the problems we all have to meet will help us to solve them for our mutual welfare.

Vol. 9 September 15, 1929 No. 18

Right Now!

I BELIEVE in the stuff I am handing out, in the firm I am working for, and in my ability to get results. I believe that honest stuff can be passed out to honest men by honest methods. I believe in working, not weeping; in boosting, not knocking; and in the pleasure of my job. I believe that a man gets what he goes after, that one deed done today is worth two deeds tomorrow, and no man is down and out until he has lost faith in himself. I believe in today and the work I am doing; in tomorrow and the work I hope to do, and in the sure reward which the future holds.

I believe in courtesy, in kindness, in generosity, in good-cheer, in friendship and in honest competition. I believe there is something doing, somewhere for every man ready to do it. I believe I'm ready—RIGHT NOW!—*Elbert Hubbard.*

Where We Come In

ALMOST important influence in our national progress has been the expansion and increased efficiency of transportation. Prior to 1860 railroads were in small and detached units built on different gauges, and freight charges were rarely less than two cents per ton-mile. Beginning in 1869 consolidations were effected, gauges standardized and uniformity of operation introduced, which have gradually reduced freight charges to about one cent per ton-mile. Business has so much increased that passenger traffic is three times and freight six times as large as they were in 1890.

"There has lately been a remarkable increase in railroad efficiency. In the five years prior to 1927 the average distance traveled by a freight car was increased four-twelfths, and one-twelfth more employes moved four-twelfths more of freight. The movement from producer to consumer has increased 40 per cent in rapidity. The periodic car shortages have been entirely eliminated. Goods are handled with so much care that the cost of paying for such damages has been reduced 70 per cent."—Calvin Coolidge.

National progress is something which all are striving for. Many railroad workers, however, are anxious to view the financial conditions and efficiency of operation of these carriers in respect to the immediate effect on themselves. Direct wages or rates of pay are too often considered as the final measure of compensation.

The three basic requirements of mankind are food, clothing and shelter. Before the era of civilization it was a case of every man for himself. He procured his own food by snaring, trapping and fishing. His clothing he made from the skins of the animals which he killed. Climatic conditions determined whether he slept under the stars, built a rude thatched hut, a stone house, or perhaps, a snow-house.

As some men were stronger, either physically or mentally, than others, the more powerful soon ceased to hunt, sew, and build houses for themselves. Gradually specialization took place, each man becoming skilled in a particular trade. The man who made all the clothes for the village exchanged his product for food, which others had obtained, or for the house which others had built.

As the known world grew larger improved methods of transportation were developed. Even today steamships bring us tropical fruits, spices from the Orient, ivory from Africa, minerals from South America, and so on. All these things the original inhabitants of the country, the Indians, had to live without. Today a building is being constructed. Into it go materials from all parts of the world, and they do not receive a second thought. Transportation has been here before our time and it is taken for granted.

Railroading combines many crafts in assisting man to obtain food, clothing, shelter, and the luxuries which his standard of living demands. Every railroader must depend to some extent on goods which are transported by rail. The cost of carrying these goods is shared by all purchasers. For this reason the efficiency with which the rail-

roads operate determines the cost to the railroader, as well as everyone else, of the necessities and luxuries of everyday life.

It is not only the size of the weekly pay that counts, it is what that pay is worth in rent, food and clothing that tells the story.

Wanted: A Good Man

A WEEK or two ago one of the hotel trade journals contained an advertisement for a head cook by a Cincinnati restaurant man.

He stated that he knew that his kitchen equipment was not modern; that many of the utensils needed replacing; that help under this prospective head cook were not all that could be desired, but what he wanted was a man to make good even if he had to cook in a tomato can, and for the man who could, he would not only buy a whole new equipment, but equip his pay envelope with more money.

Here is the proposition concisely put: What this restaurant man wanted was one to make good rather than to make excuses. He wanted to test him on the material at hand.

Anybody can make good under perfect conditions, but it requires a real man to make good with imperfect conditions.—*Selected.*

Graae Crossings In Africa

ONE of the points of contrast between Americans and their British cousins is the difference in their ways of regarding the individual's responsibility to society. The American is likely to believe, for instance, that an individual has been sufficiently punished if he suffers personal injury or property loss through his own negligence, even though he may have jeopardized others.

Not so the British! In their opinion, the individual who puts in risk the life, limb or property of others is in no way excused by his own incidental misfortune, and they slap on a stiff punishment to make the lesson more impressive.

Illustrating the British attitude toward accidents that result from carelessness, the *South African Railways & Harbours Magazine* cites the following cases:

"In the Cape Province, a wagon was badly damaged as the result of being struck by a train on a level crossing. A youth, eighteen years of age, who was in charge of the wagon, admitted he did not keep a look-out for trains before attempting to cross the line. He was fined three pounds by the court.

"In Natal the driver of a steam wagon continued to cross the line in spite of the repeated warnings of the whistle sounded by the engine driver of an approaching passenger train. The driver of the train, with great promptitude, applied the brakes and succeeded in slowing down the train so that a collision was avoided by a few inches. The wagon driver was prosecuted and fined ten pounds, with the alternative of one month's imprisonment at hard labor. The act under which the case was tried provides as a maximum penalty a fine not exceeding 200 pounds, or imprisonment for a period not exceeding two years, or both fine and imprisonment.

"A further case of negligence of recent occurrence happened at Capetown, when a motor car was driven into an electric train at a protected crossing, warnings and flagman's signals having been ignored.

They Serve Unseen

THE traveler who journeys by rail often thinks as he looks up at the great panting locomotive of how much he owes to the steady hand, the quick eye and clear brain of the engineer, and he may give a passing thought to the caution and good judgment of the conductor. But so little are we influenced by the things that are unseen and do not directly touch us, that few ever stop to consider how completely their fate has been in the possession of those men whose duty it is to keep the roadbed in repair, spy out imperfect rails or loose joints and generally to provide against those trivial dangers which produce great disasters.

It is the work of this class of men not only in railroading but in every other organization that makes it possible for the old world to carry on at all.—From the *Baltimore (Md.) Sun.*—(*Railroad Data.*)

The railroads received last year an average of 2.852 cents for each passenger carried one mile. This was lower than in any previous post-war year. It compares with 3.086 cents per passenger-mile in 1921, 3.018 in 1923, 2.938 in 1925 and 2.898 in 1927. The reduction since 1921 amounts to 7.6 per cent.

Time on the Railroad

(Continued from page 281)

in 1920 it has risen to 12.9 in 1928, an increase of 25.2%, and a further improvement is shown this year.

FREIGHT LOCOMOTIVE-MILES PER LOCOMOTIVE-DAY. This factor, together with the corresponding factor for passenger locomotives, indicates the average daily movement of engines in train service. Both averaged about the same in 1928 as in 1920, but allowing for the greater proportion of locomotives in storage, there was considerable improvement over 1920. So far in 1929 they show an appreciable improvement.

FREIGHT CAR-MILES PER CAR-DAY. This factor directly involves time and speed. It has shown a marked increase, from 25.1 miles per car-day in 1920 to 31.3 miles in 1928, an improvement of 24.7%. This year shows a further increase of nearly 8%.

GROSS TON-MILES PER TRAIN-HOUR. This factor indicates the total weight moved a given number of miles in an hour. Its closely related factor—net ton-miles per train-hour—measures the weight, exclusive of the tare, moved one mile in an hour by a freight train. Since 1920 the former has shown an improvement of 59.0% and the latter 39.8%. Both show further improvement in 1929.

NET TON-MILES PER CAR-DAY. This is the weight in a freight car, multiplied by the number of miles the car travels in the average day. It has improved from 498 in 1920 to 526 in 1928, a gain of 5.6%, and shows an added gain of 10% this year.

FUEL CONSUMED. Increases in average speed per hour through reduction of delays between termini, lengthening of locomotive runs, and other matters involving time have led to large gains in fuel conservation. From 1920 to 1928 the improvement per unit of result was 26.6% in freight and 20 2% in passenger service.

The economic value of the time element to the railways and industry is of tremendous importance. Every mile added to the daily average movement of a freight car is equivalent to adding 100,000 cars to the total freight equipment. The five miles per day increase since 1920 thus represents a virtual addition of 500,000 freight cars and means a saving of perhaps $750,000,000 in new capital, $45,000,000 in the annual cost of such capital, $40,000,000 for annual depreciation charges, and $75,000,000 for repairs per year.

In fuel consumption, each reduction of a pound of coal per 1,000 gross ton-miles is estimated as representing a saving of more than $300,000 per year. The decrease of more than thirty pounds from 1920 to 1928 thus represents a saving of about $90,000,000.

The increased speed with which freight now moves, as compared with 1920, has contributed hundreds of millions of dollars annually to industry. The benefit to our economic activity is almost beyond measurement. Industrial processes have been speeded up, transportation delays cut to a minimum, car shortages and congestions eliminated, and the carriage of large industrial stocks by manufacturers, wholesalers and retailers has been much reduced.

In 1923 it was estimated that reducing the average turn-around time of a freight car today would reduce the annual interest charge against those goods by more than $18,000,000. Since the average turn-around time of a fright car today is probably one-third less, the interest charges alone so saved the shippers must be at least $50,000,000 a year.

Why Not?

BE yourself! Pick the goal which has a meaning all its own for you! Get your schooling! Make it hard! Hang on! How to an originality of purpose determined by the burning fires of your own troubles; shaped by the powers of your own gods; beaten out of your own brass! Be confident that in you there is a concrete, living individuality as distinctive as in the poetry of Walt Whitman.
*—From "*How to Succeed,*" by* John Noble *("Wichita Bill"), famous in the world of art.*

When The Whistle Talks

It Has a Language Understood by All Operating Department Employees

TO the uninitiated the sound of the locomotive whistle is only a noise, but to the railroad man it speaks a language that is as plainly understood as if the engineer had transmitted his warning or orders in plain English. You may be one of those who has sometimes thought that the whistle is sounded more frequently than is necessary, but this is not probable as frequent checks are made by the road's officers, not only to determine that the whistle is sounded as required by the rules, but that it is only used when necessity demands.

Paraphrasing a popular song of a decade ago. "Every little whistle has a meaning all its own," and we are going to try and tell you in layman's language just what this whistling is all about.

First of all, there is the "t-o-o-t, t-o-o-t, toot toot," which is familiar to the traveler on the highway as well as those who live near the track. The rule requires that it must be sounded approaching every public crossing. It is a horrifying experience for the locomotive engineer to have to sit helplessly in his cab watching a machine approaching the crossing, the driver apparently giving no heed to the oncoming train. It is the only means that he has of urging the driver to stop and he knows that in too many cases failure to heed its warning means death or serious injury.

Even though others may sometimes disregard its meaning, the railroad man knows that he must never delay even the fraction of a minute to carry out the order that the whistle transmits. If a train makes an unexpected stop under conditions where it may be overtaken by a following train, the engineer sounds a long and three short blasts of the whistle. The rear brakeman knows that it is not within his province to decide whether this signal is to be obeyed. Without hesitation, he picks up his flagging equipment and runs to the rear to protect his train against being struck by a train that may be following. Where three or more tracks are used, the code is elaborated upon to not only indicate direction but to signify the particular track the flagman is released from protecting.

The long blast of the whistle that is sounded when a train is approaching a station not only warns those in and about the station that it is coming, but gives similar notice to the mail clerk and the express messenger so that they may prepare to receive and deliver mail and express matter. It also gives the brakeman an opportunity to announce the name of the station for the benefit of the passengers and to place themselves where they may assist passengers leaving and boarding the train.

The "o-o-o-o" is a call for signals. It is sounded when approaching a train order station, if the train order signal is displayed, denoting there are orders to be delivered to the train approaching; the signal is sounded as a warning to the conductor to be prepared to receive the order or orders. If there were orders, the arm of the semaphore would have remained in the horizontal position and the engineer and the conductor would know that their train must not leave the station until they had received the orders intended for it.

As stated, two short blasts of the whistle is a courteous acknowledgment of a signal; three is a warning that a standing train is about to back; four is a call for signals, if equally spaced, while if separated in the center is a request from the engineman, in a train hauled by more than one engine to the other engineer to assist him in recharging the airbrake system; six short blasts divided into groups of two tell the train crew that the airbrakes are sticking. A long blast the use of which has already been explained gives notice of the approach to a station while two indicate to the crew to release brakes; three blasts of the whistle are sounded when a train has parted, while four and five re-call the flagman from the south and the north respectively. A long blast followed by three short blasts orders the flagman to go back and protect the rear of the train, while three short blasts followed by a long one orders him to go ahead for the same purpose.

Available space does not permit of telling of the many other signals that are transmitted by means of the locomotive whistle. This interpretation of the language of the locomotive is submitted in the hope of creating a better understanding for its necessity. The locomotive whistle

is an imperative essential in the safe operation of trains.

Steam is used to sound the locomotive whistle and water and fuel are required to make the steam. These cost money which is another reason why the whistle is sounded only when necessity demands.

Remember then the men who by day and by night, in sunshine and storm, pilot their trains over the steel highway with thoughts not only of the safety of those who have entrusted their lives to their care, but also those who, if inadequately warned, might meet with disaster in the train's path.—*From "All Aboard" issued by the Northwestern Pacific R. R.*

Infantile Paralysis

AUGUST, September and October are the months when poliomyelitis, or infantile paralysis, is most prevalent. While no particular epidemic, such as occurred in 1916, is feared, there have been enough scattered cases in the State to make it worth while to describe the symptoms of the disease and to indicate what to do if it develops.

"Despite years of research the real cause of the infection is unknown; hence no definite rules can be laid down in regard to prevention. During the latter part of the summer, any child with an unexplained stomach or intestinal disturbance and a temperature up to 102 degrees, with a discomfort out of all proportion to the symptoms, should be kept apart from other children for a few days and the family physician called. Pains in the neck, back and limbs, general weakness and clumsiness about the fourth day of illness mark the onset of paralysis and may establish the diagnosis.

"After the first week of the disease, the second and most difficult period begins, namely,—the period of rehabilitation. Neighbors are usually prolific with advice at this time; suggestions ranging from violent rubbing with skunk oil to long and vigorous periods of walking. This creates a very difficult situation for the attending physician and nurse and a dangerous one for the patient. Follow the doctor's advice only.

"Both the family and patient must understand that absolute and continued rest is essential for a complete recovery of the weakened muscles, which must not be used at all except when and as an orthopedist directs.

"All cases of infantile paralysis must be reported to the health authorities. When this is done the State Department of Health offers to the attending physician and to the family the services of trained orthopedists and orthopedic nurses in caring for the patient.

"After all pain and tenderness have left the affected muscles, then and only then is it time for a series of properly graded and controlled exercises, carefully carried out according to the direction of the orthopedist.

"When the time finally comes when the patient is allowed to be up, a light and properly fitted brace usually has to be worn, unless there has been a complete muscular recovery. Such a brace has to be watched and adjusted from time to time.

"Expert care and supervision is required in cases of infantile paralysis in order to restore the use of the affected muscles."

Bowling Season Opening

ARRANGEMENTS for the opening of The Delaware and Hudson Athletic Association's Ladies' Bowling league are now being made. All ladies who wish to enter the league this year will kindly send in their names to JANE FABBO, Personnel Department, Room 1005. The teams will be made up of candidates from the General Offices and Colonie and it is hoped that a sufficient number of girls will enter the bowling to make this the most interesting and beneficial season the league has yet enjoyed. Inasmuch as the play will begin on or about Monday, September 30, the prompt entrance of all candidates will be appreciated.

* * *

All those who wish to enter the Men's Bowling league of the Association will kindly send in their names to the secretary, HARMON VEDDER, of the Auditor of Revenue's office. As last year the league will be composed of sixteen teams, of five men each, captained by the sixteen high-average men at the close of last season. Due to the resignation of a few players, there will be places for a limited number of new candidates. Any who are not accommodated at the opening of the season may find a place when others drop out later. The program includes, as in previous years, a team to represent the Association in the Albany City League, teams to be sent to the American Bowling Congress in Cleveland, smokers, and an annual banquet. Prizes will also be awarded at the end of the season.

Doris: My husband is a one woman man.
Norma: Do you know who she is?

Clicks from the Rails

World's Fastest Train

By speeding up their train from Cheltenham, England, to London, and cutting its running time for the 77¼ miles between Swindon and Paddington to 70 minutes, the Great Western Railway now has the fastest train in the world. The time formerly allowed for the latter distance was 85 minutes but this has been twice cut to reduce it to the present figure. On the first trip on the new timing nine coaches (269 tons) were carried and it left its initial station on time. Some of the speeds it attained over the route were as follows: Swindon to Didcot, 24¼ miles, 22 minutes; Didcot to Reading, 17 miles, 14 minutes; Reading to Slough, 17¼ miles, 14¼ minutes; and to "top" the performance they came into Paddington one minute ahead of time.

* * *

Clock Winders Disappearing

New York City has only one active clock winder left, according to the *New Yorker*. Each week he sets out on Friday and makes his rounds, winding the clocks for certain of his customers. A former clock winder confines his efforts today to repairing clocks, because the electric self-winding clocks of the Western Union have made clock winders unnecessary. Still we have several million people whose final duty each night is winding the alarm clock.—*B. M. T. Monthly.*

Learning to Swim

No doubt the percentage of bathers who drown yearly would be materially reduced if every child were taught to swim. If learning to swim is put off until the child is grown the chances are less and less that he or she will ever learn, with just that much more danger to himself or herself in later life. Then, too, the man who can swim is of some value at least to the unfortunate person who is in danger of drowning. With such ideas in mind, the M-K-T has for twelve years sponsored free "Learn to Swim" Schools to instruct children in swimming. The classes for boys and girls are held separately, each class being given certain assignments to complete before the final tests. In 1929 forty girls learned to swim at least 60 feet and thirteen girls a distance of 20 feet. Twenty-six boys conquered the 60-foot swim and 24 the 20-foot distance. After completing the course certificates were presented to the "graduates."

* * *

No Train Service

All passenger trains have been discontinued on the Island of Oahu, of the Hawaiian group, motor buses having taken their places. Steam freight trains are still used however, to haul pineapples to the packing plants in Honolulu and to carry sugar cane from the plantations to the mills.—*Associated Press.*

A Unique "Comeback"

A farmer who had lost a cow on the railroad tracks was visited by the company's claim agent who explained that the railway would not be able to pay his claim as it was in poor financial circumstances at that time. He was greatly surprised a few days later to receive the following letter from the farmer:

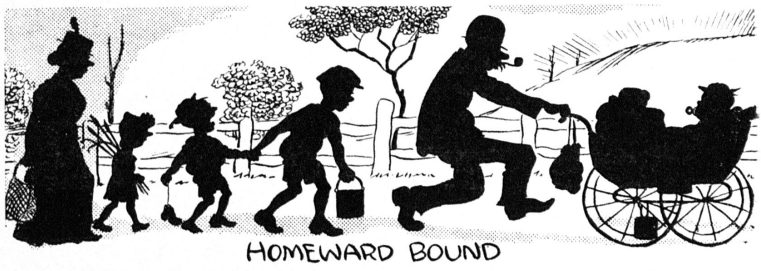
"I was surprised to learn that the railroad is in such poor financial shape. It is my intention to co-operate fully in any way I can, to bring about the perpetuation of your great industry and, after hearing you talk, and considering the matter from all angles, I am withdrawing my claim for the cow you killed and am enclosing herewith my check for $5 to help you out."—*Railway Age.*

* * *

Let Child Choose

That young people should have at least something to say about what they will become in later life is well exemplified by the experience of Clover T. Keen of Cincinnati. He was graduated from the Electrical Engineering college of Ohio State University in 1921 "because his folks wanted him to be an engineer." Now Clover has returned to the university to study the profession of his choice—medicine.

"I never did like engineering, but the folks wanted me to take it, so after I satisfied them, I decided to study medicine," he explained.



—NEW ZEALAND RYS. MAGAZINE.

The Invisible Force

MIGHT of the roaring boiler,
Force of the engine's thrust
Strength of the sweating toiler,
Greatly in these we trust.
But back of them stands the Schemer,
The Thinker who drives things thru;
Back of the job—the Dreamer
Who's making the Dream come true!

— *Berton Braley.*